

FIG. 1A

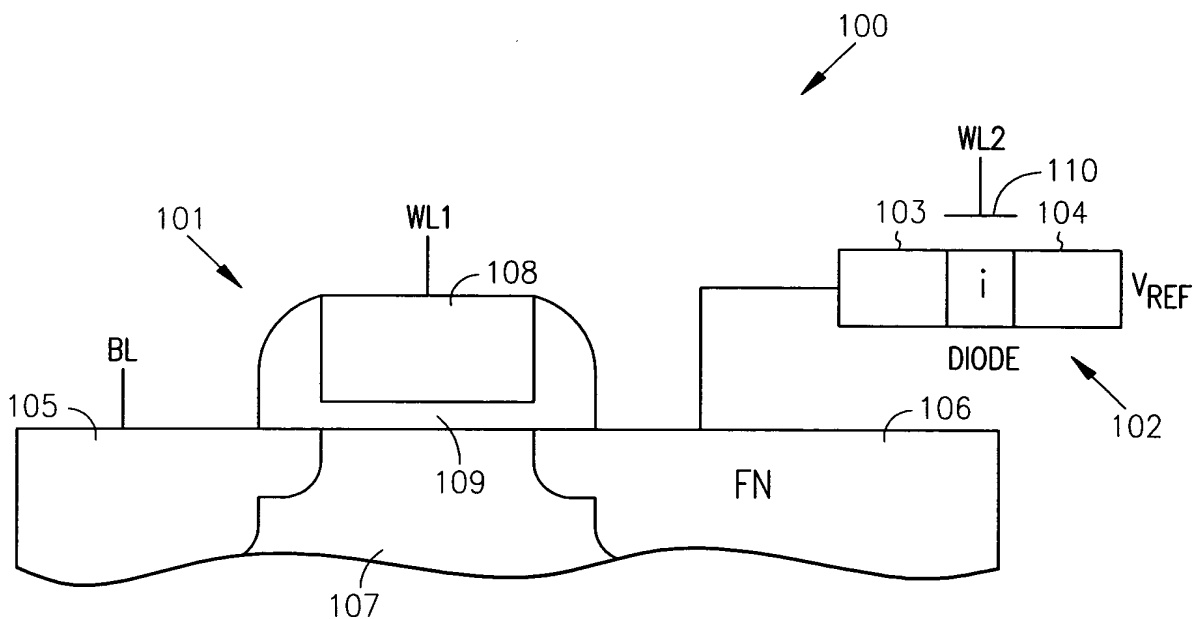


FIG. 1B

2/23

p+/i/n+ DIODE

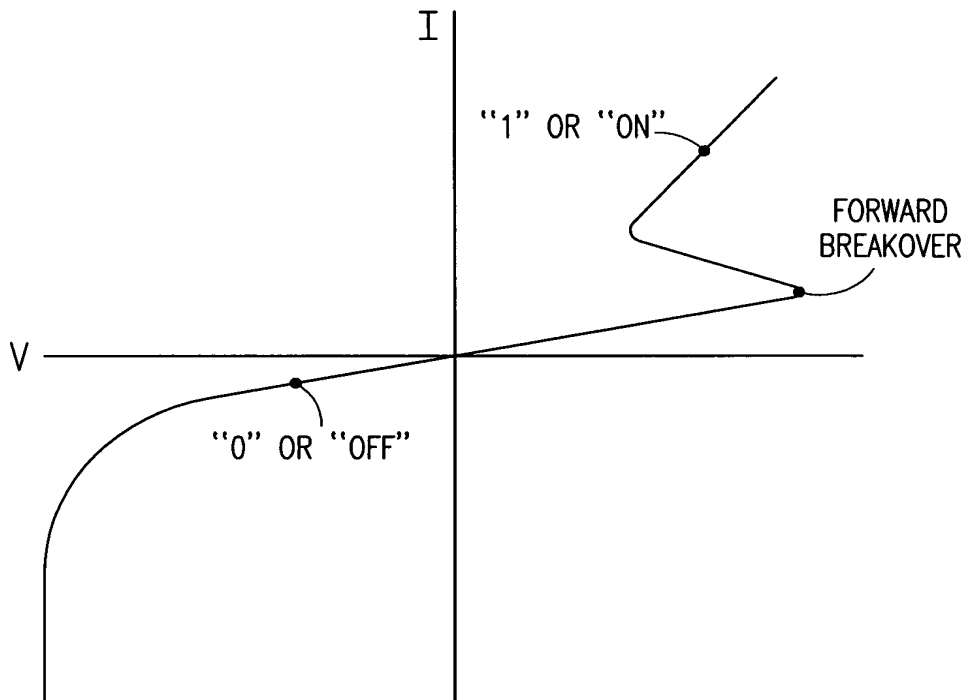


FIG. 1C

n+/i/p+ DIODE

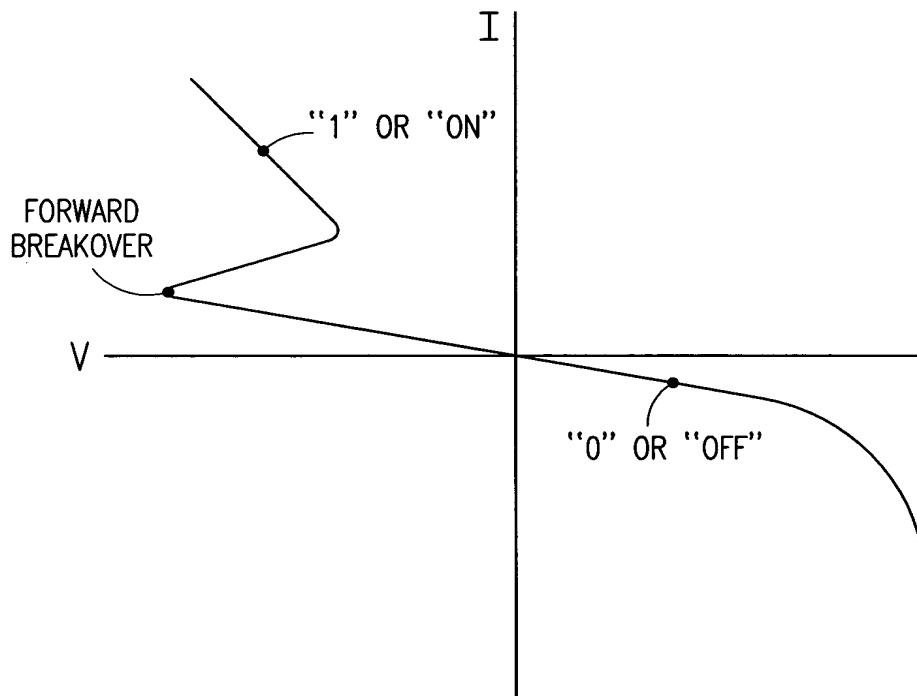


FIG. 1D

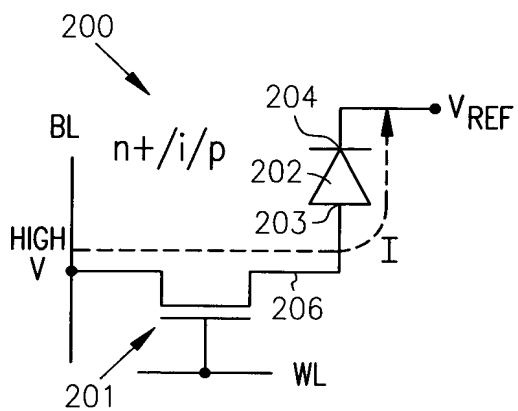


FIG. 2A

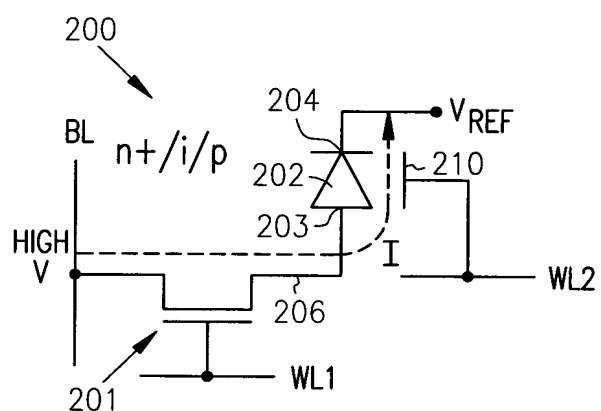


FIG. 2B

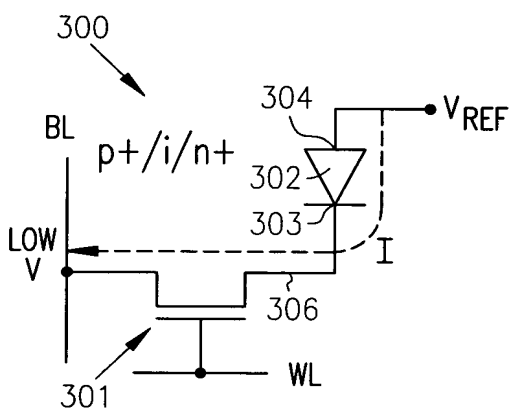


FIG. 3A

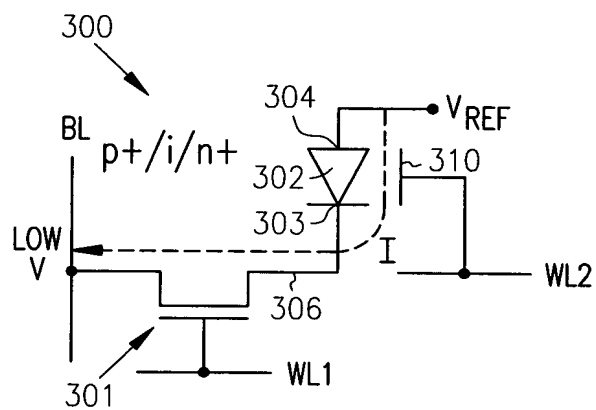


FIG. 3B

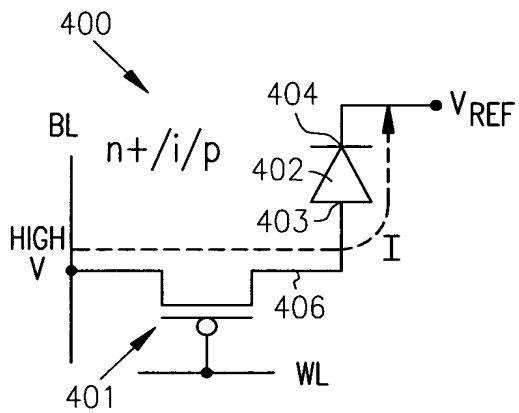


FIG. 4A

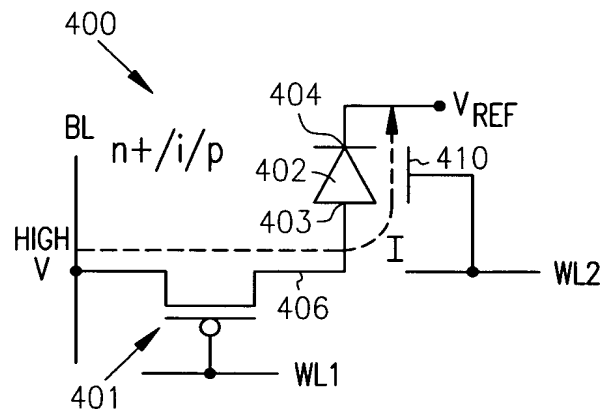


FIG. 4B

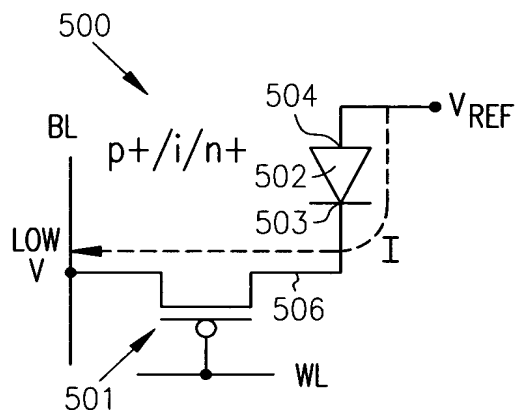


FIG. 5A

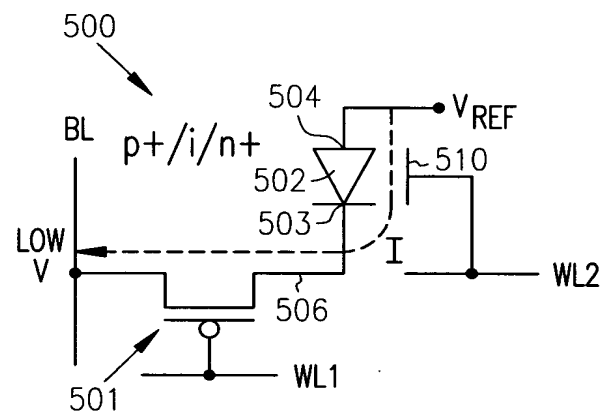


FIG. 5B

5/23

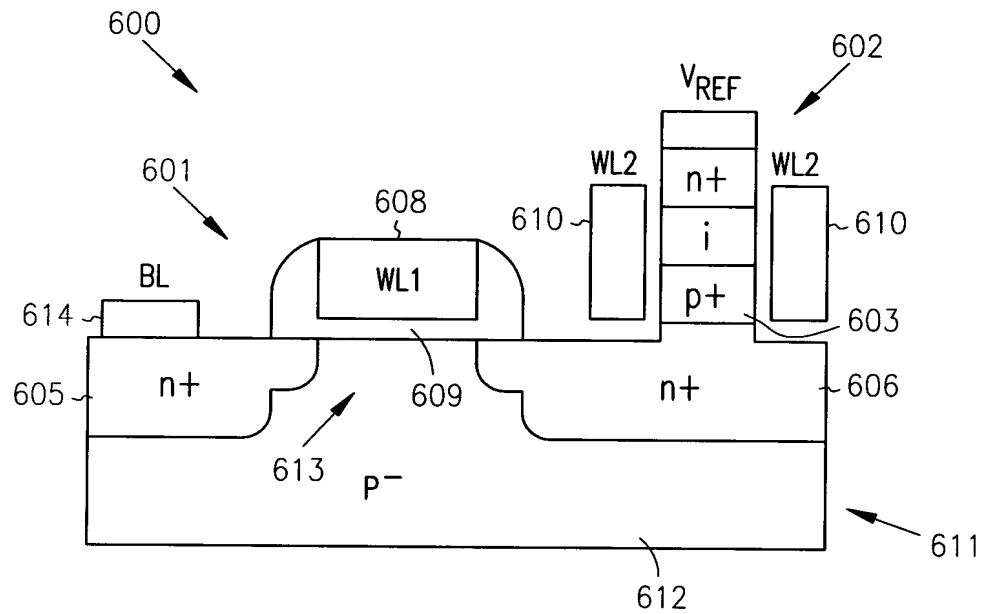


FIG. 6A

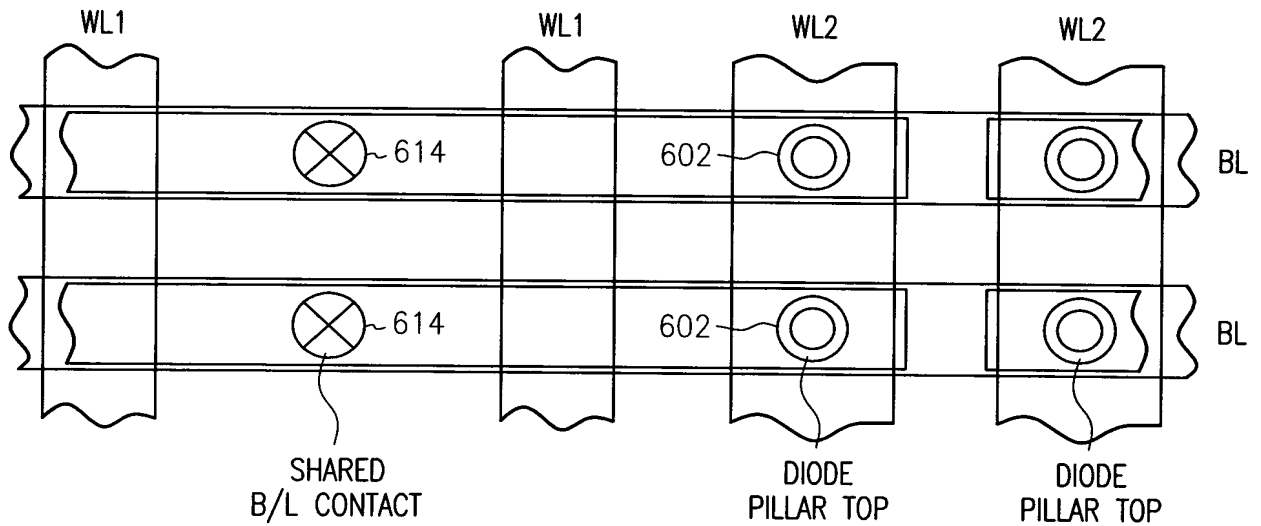


FIG. 6B

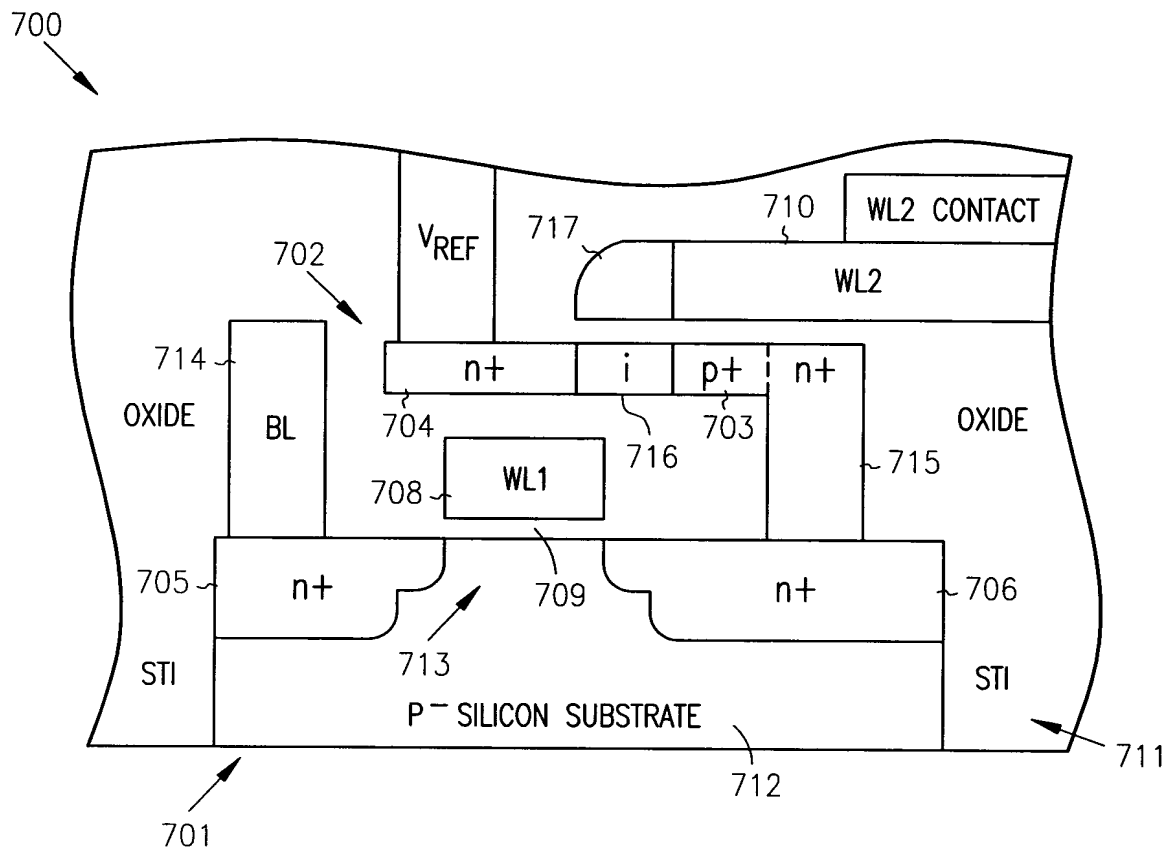


FIG. 7A

7/23

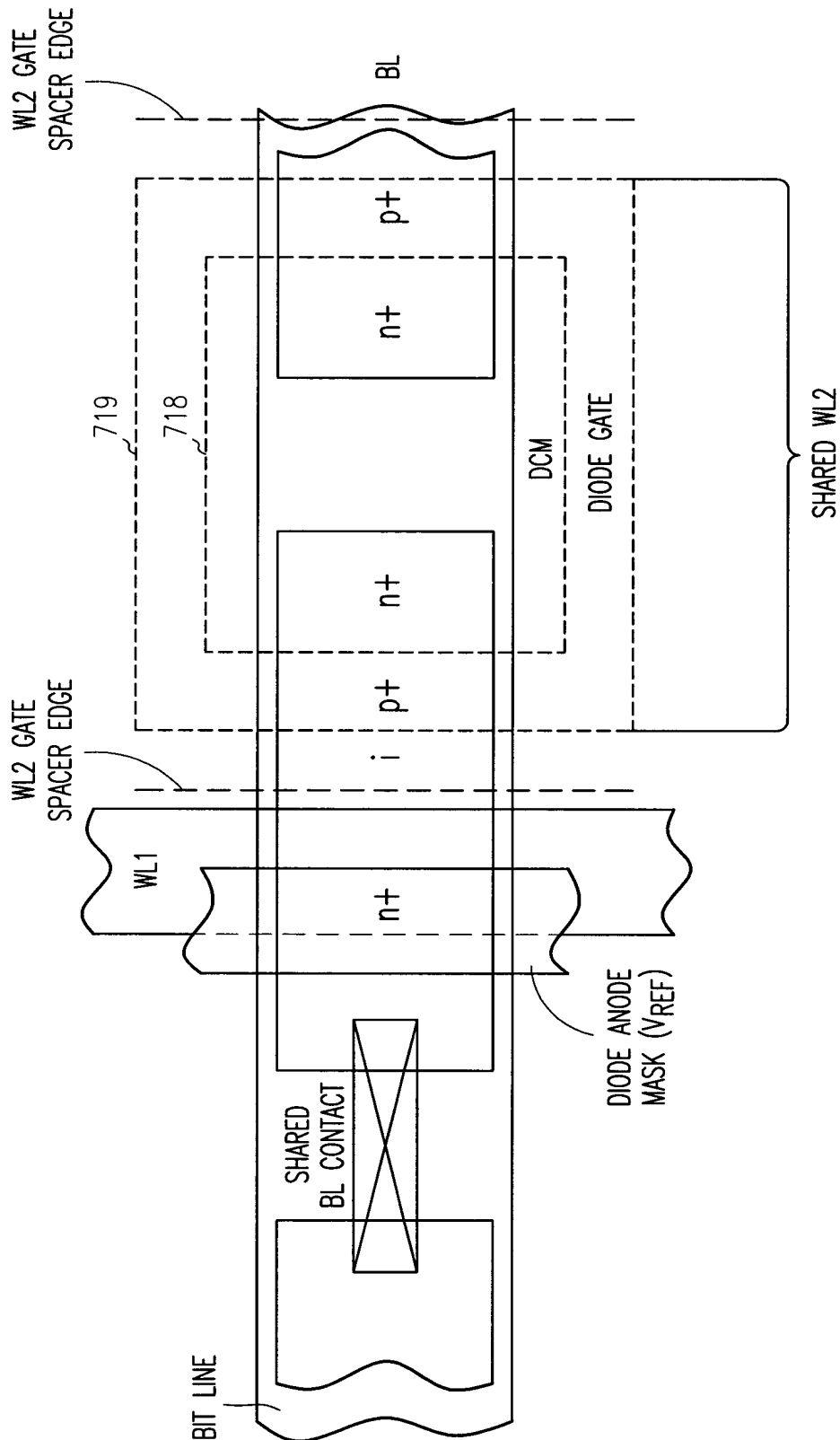


FIG. 7B

TITLE: HIGH-PERFORMANCE ONE-TRANSISTOR MEMORY CELL

INVENTORS NAME: Arup Bhattacharyya

DOCKET NO.: 1303.111US1

8/23

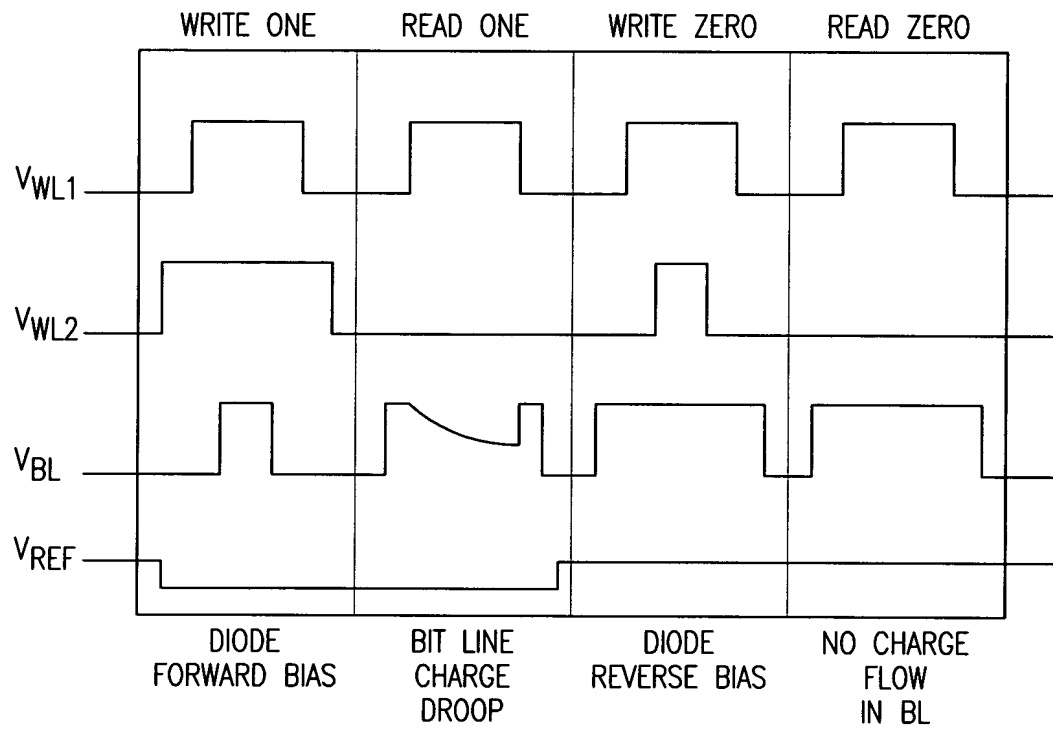
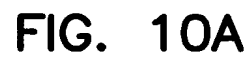


FIG. 8

This plan view illustrates a semiconductor device layout. It features a horizontal bit line (BL) and a vertical word line (WL). The device is divided into three main regions by two vertical word lines (WL1 and WL2). The leftmost region is labeled 'SHARED BL CONTACT' and contains two circular contacts, each marked with an 'X' and labeled 914. The middle region is labeled 'DIODE PILLAR TOP' and contains two circular contacts, each marked with a circle and labeled 902. The rightmost region is also labeled 'DIODE PILLAR TOP' and contains two circular contacts, each marked with a circle and labeled 902. The bit line (BL) is shown as a horizontal strip with wavy edges, and the word lines (WL1 and WL2) are shown as vertical strips with wavy edges. The entire device is labeled 900.



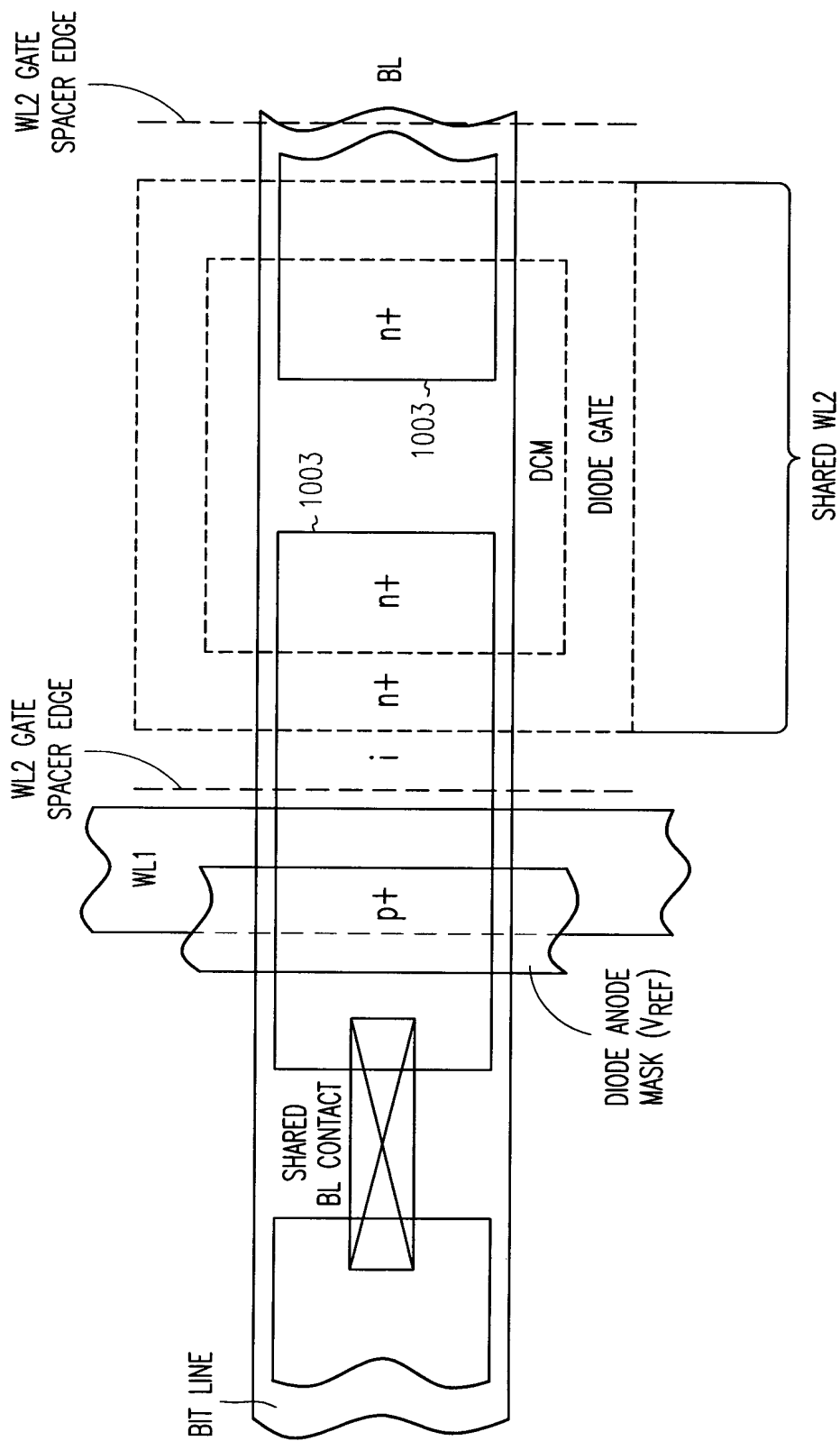


FIG. 10B

TITLE: HIGH-PERFORMANCE ONE-TRANSISTOR MEMORY CELL

INVENTORS NAME: Arup Bhattacharyya

DOCKET NO.: 1303.111US1

12/23

BULK $p^+/i/n^+$

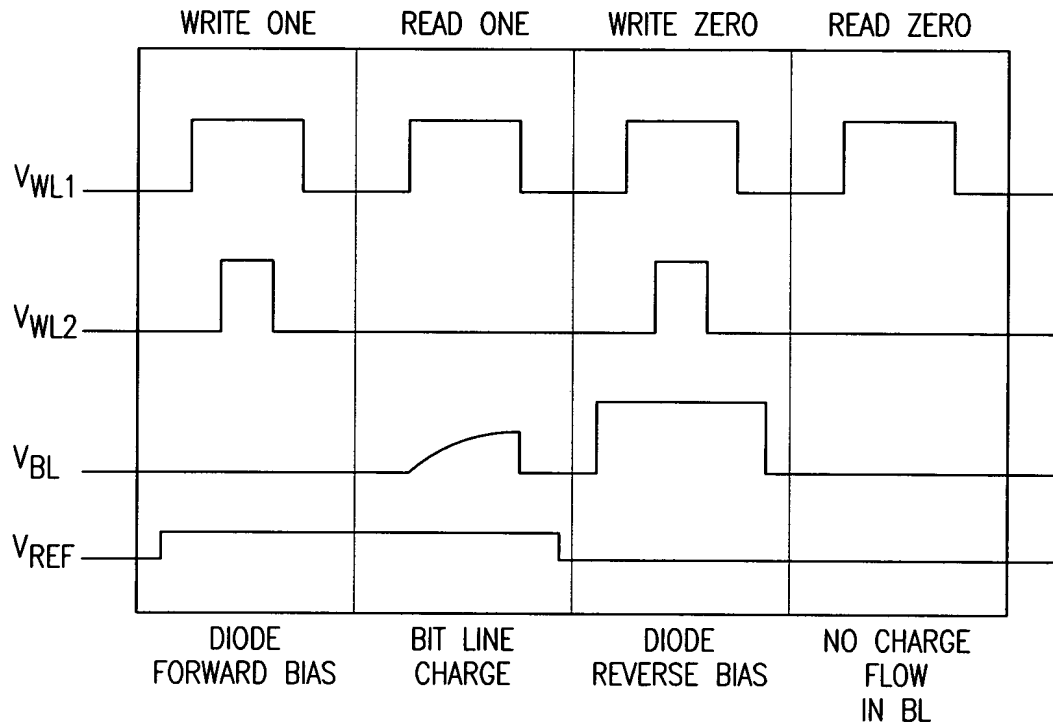


FIG. 11

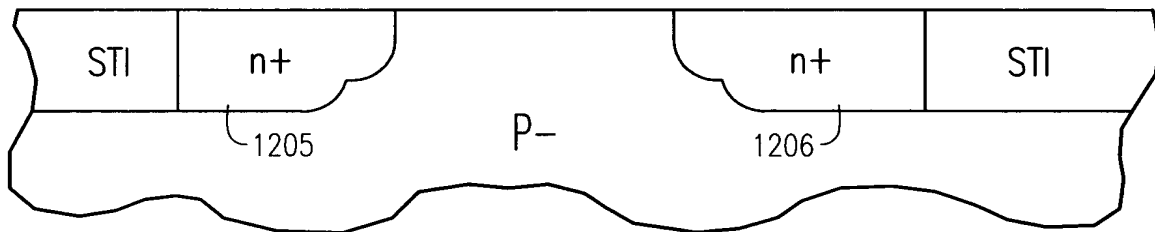


FIG. 12A

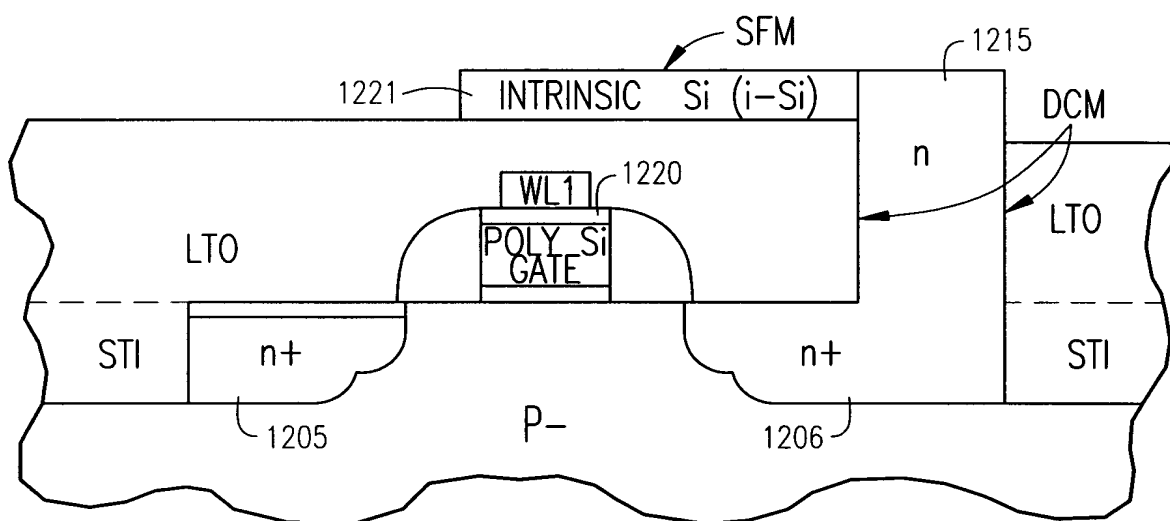


FIG. 12B

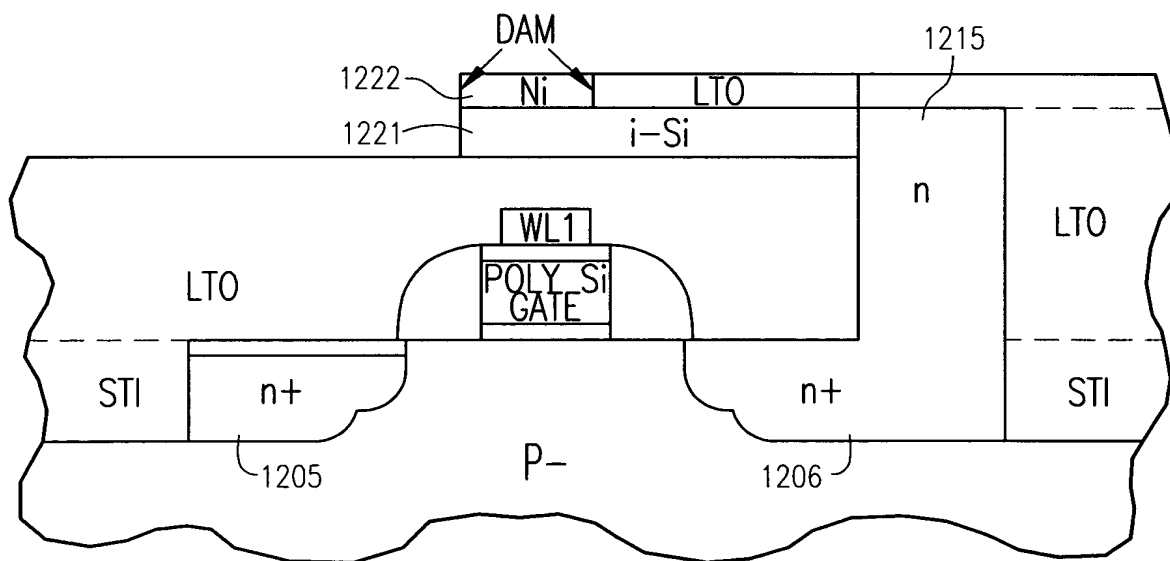


FIG. 12C

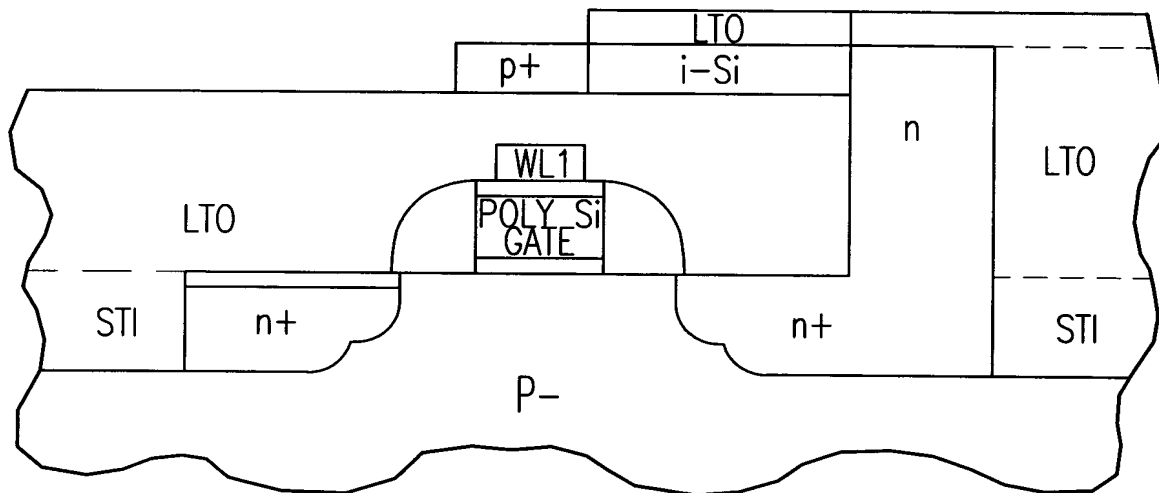


FIG. 12D

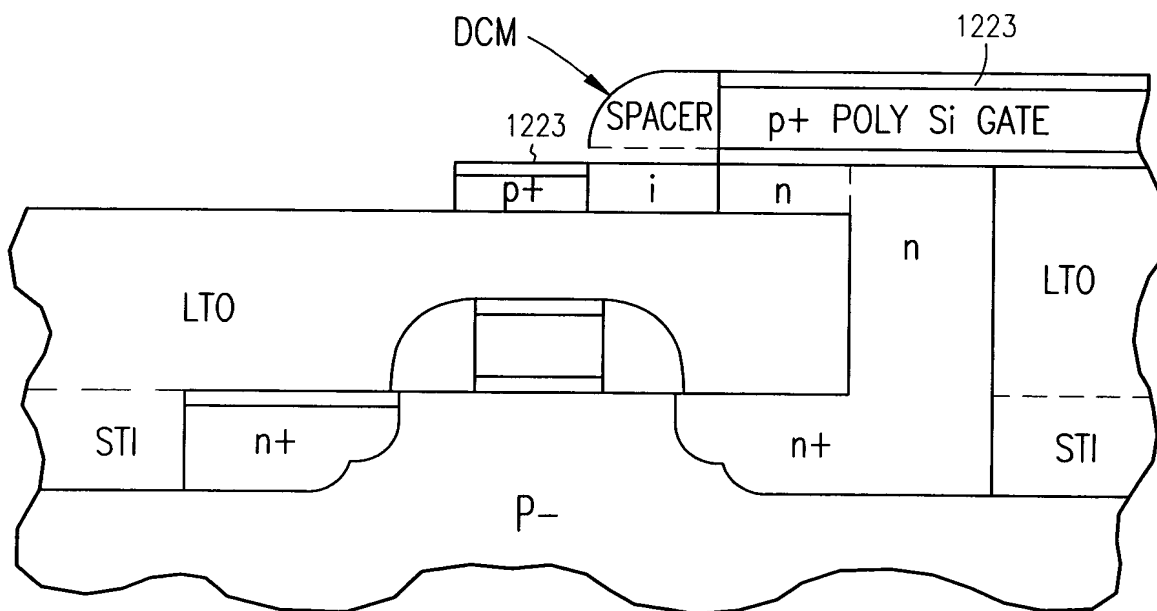


FIG. 12E

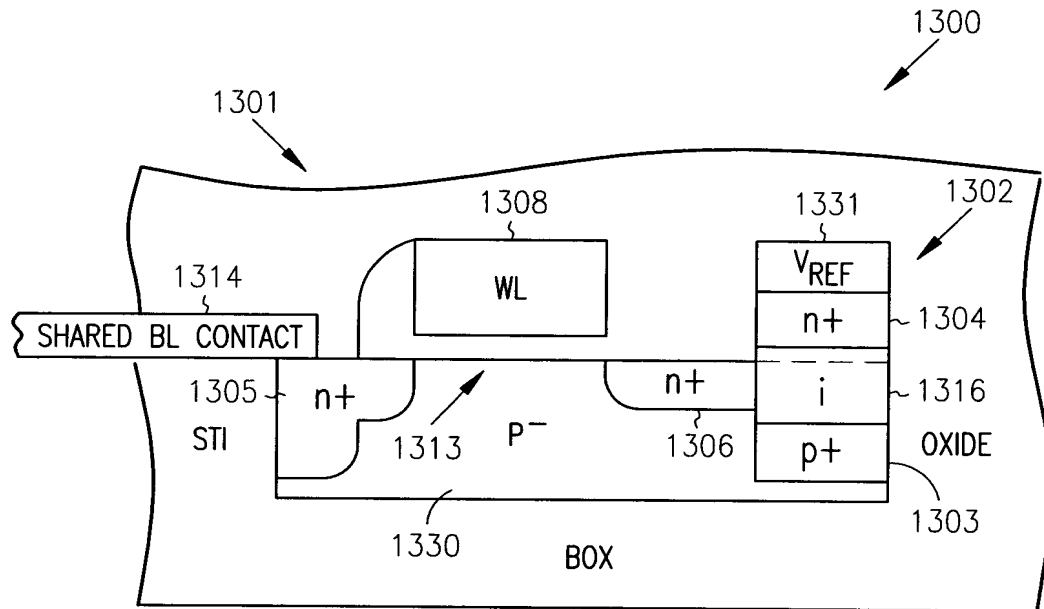


FIG. 13

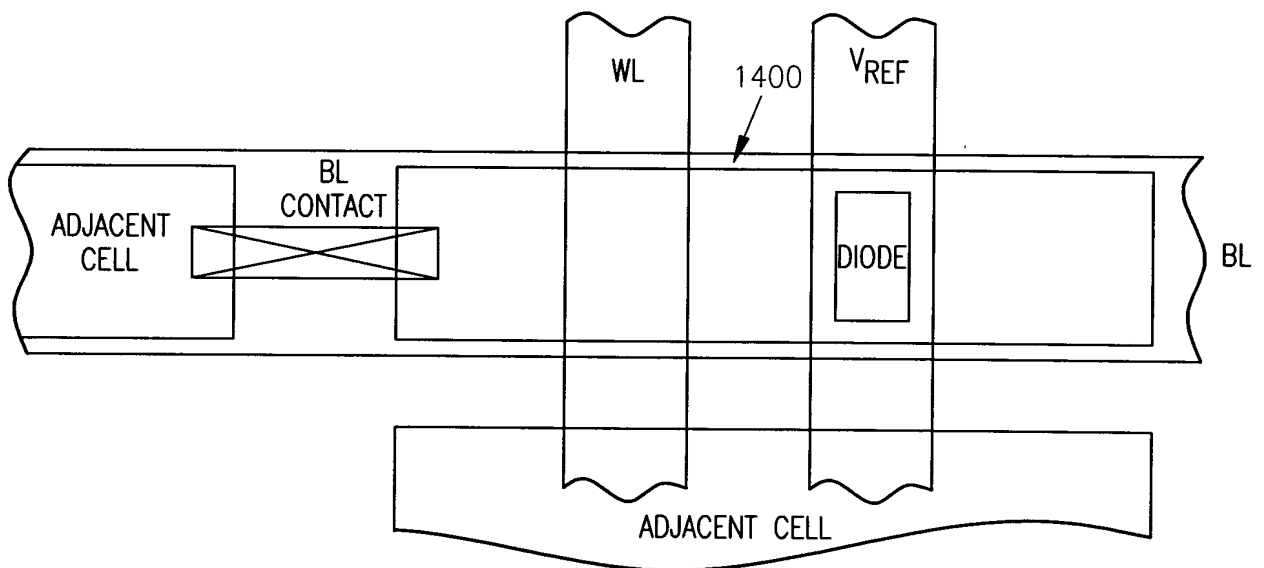


FIG. 14

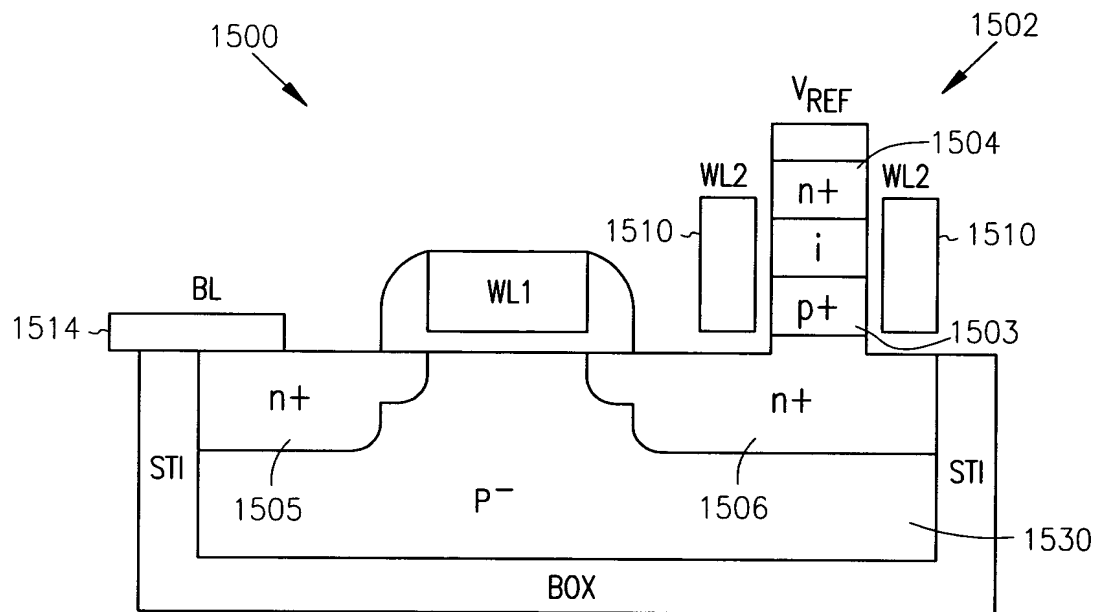


FIG. 15

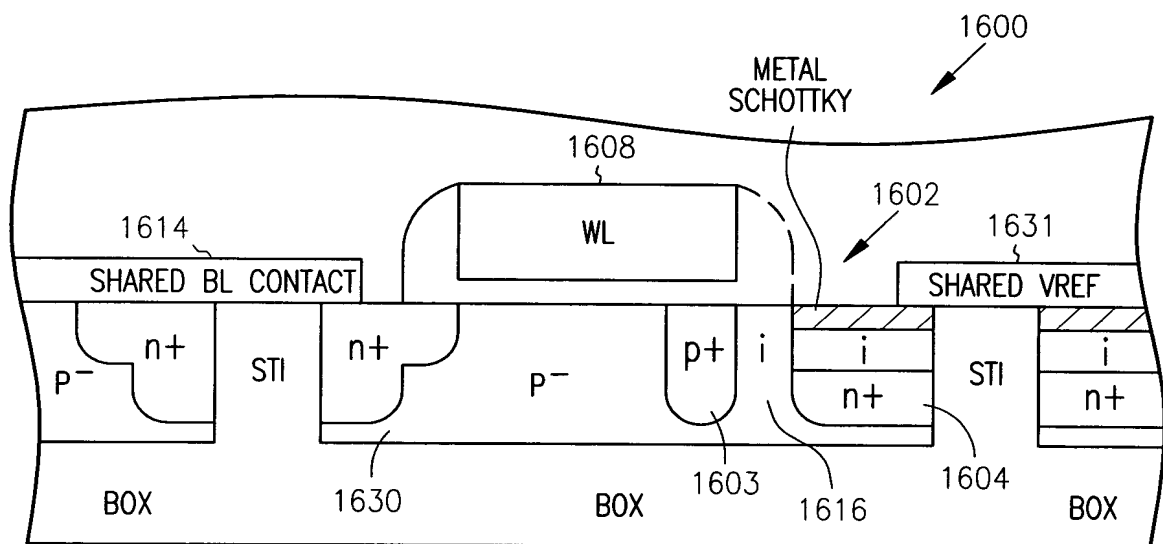


FIG. 16

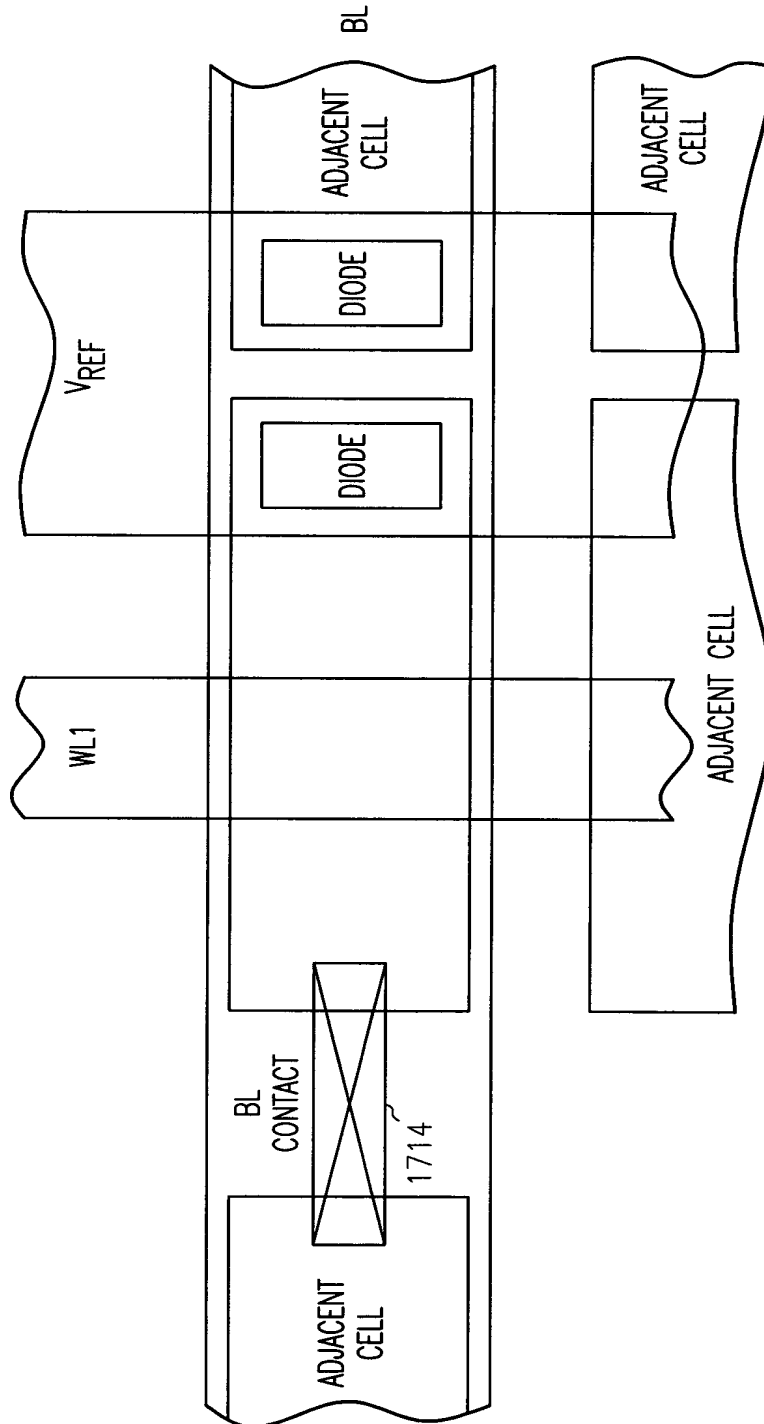


FIG. 17

18/23

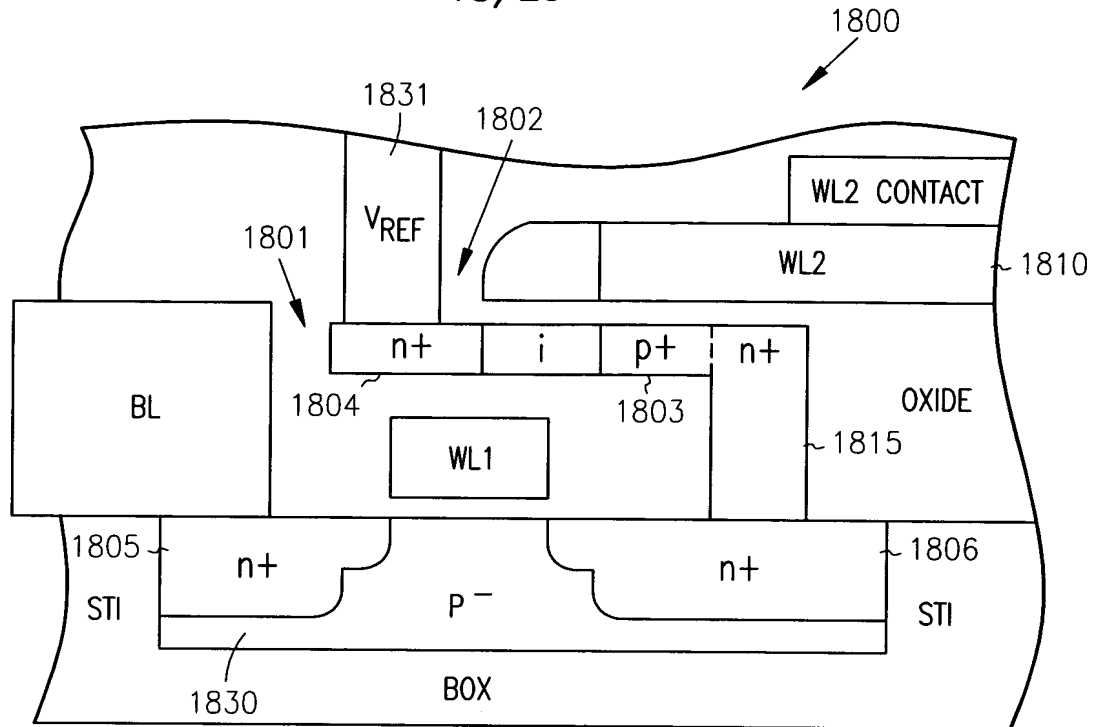


FIG. 18

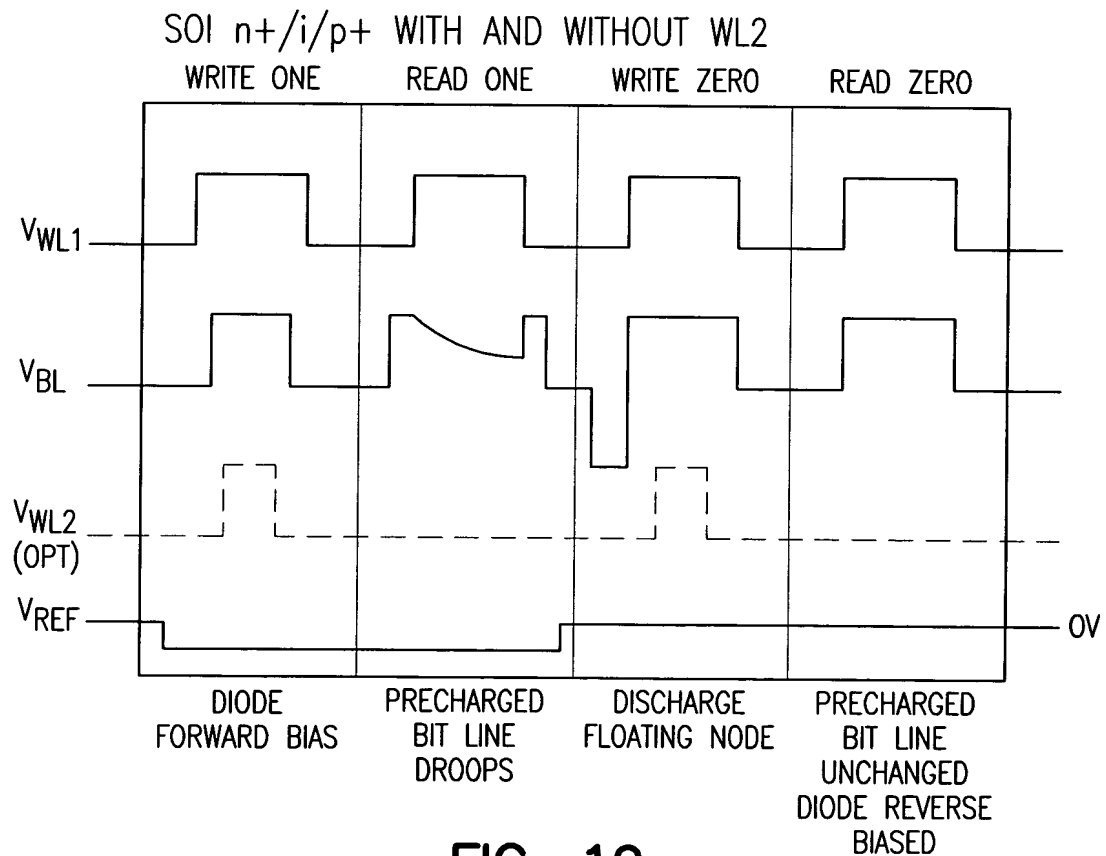


FIG. 19

19/23

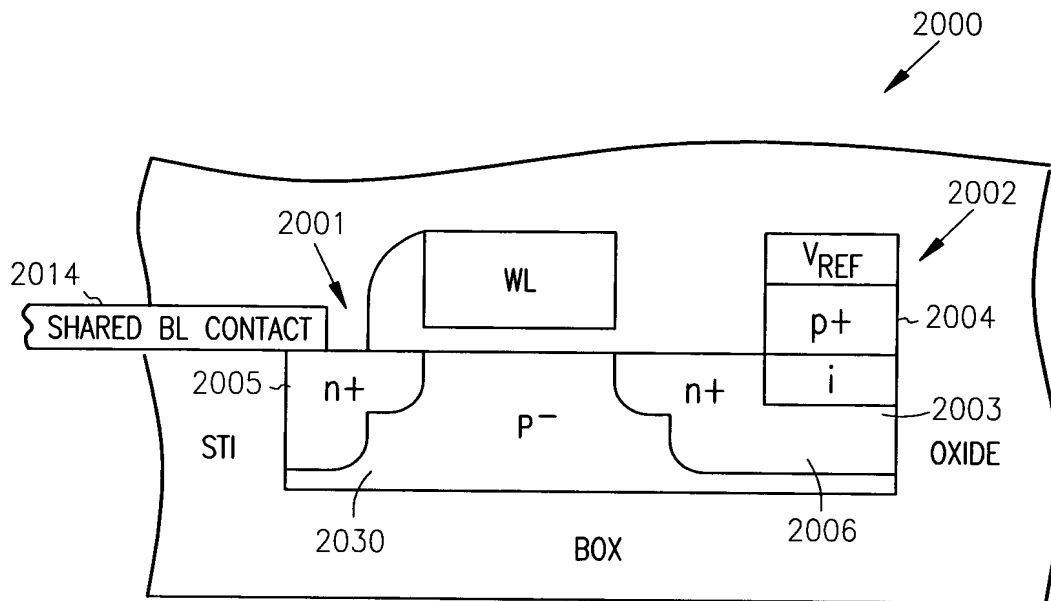


FIG. 20

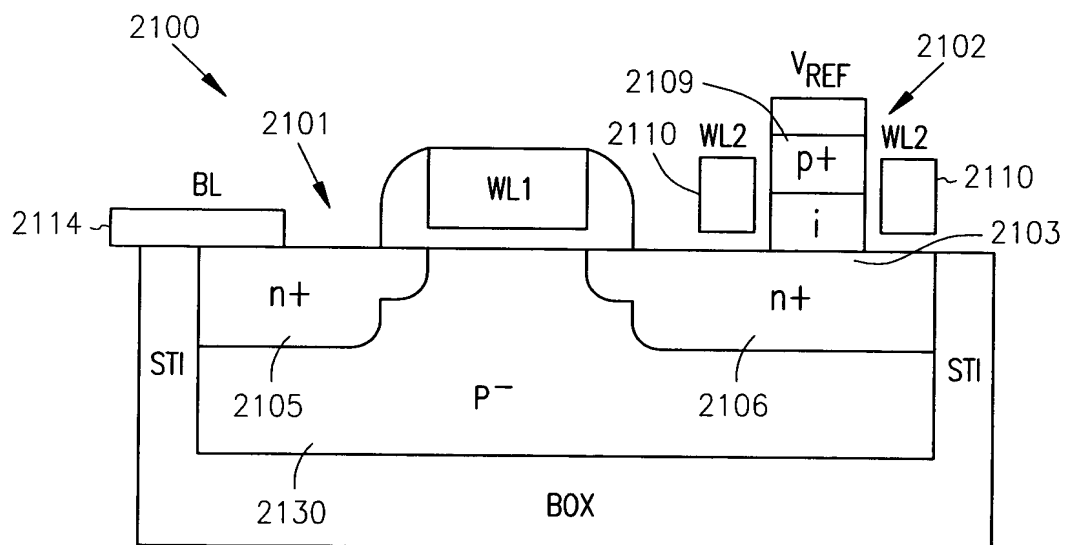


FIG. 21

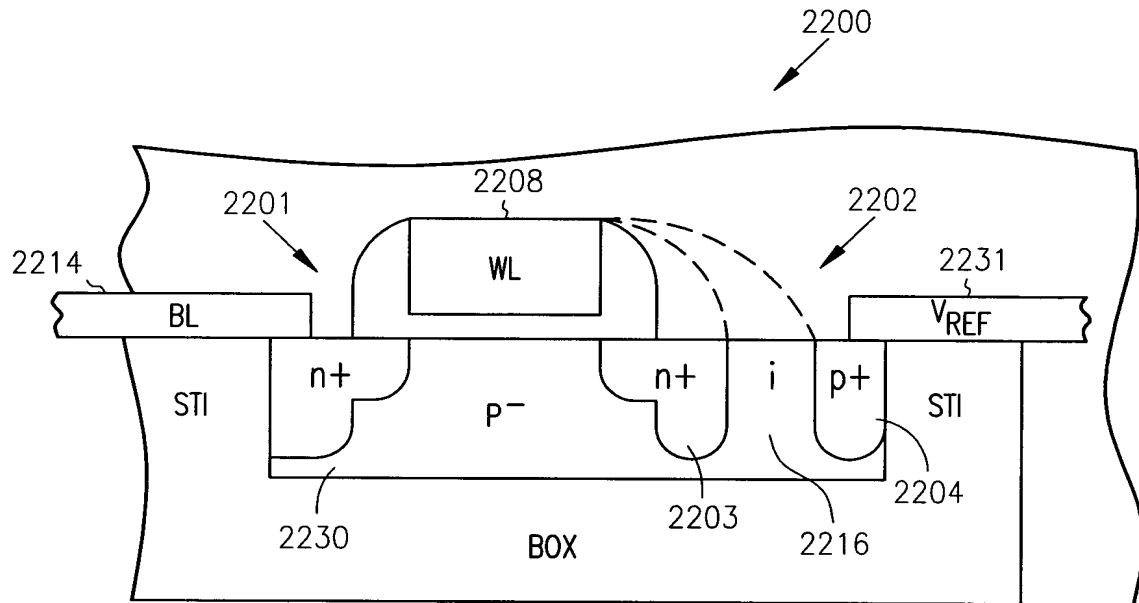


FIG. 22

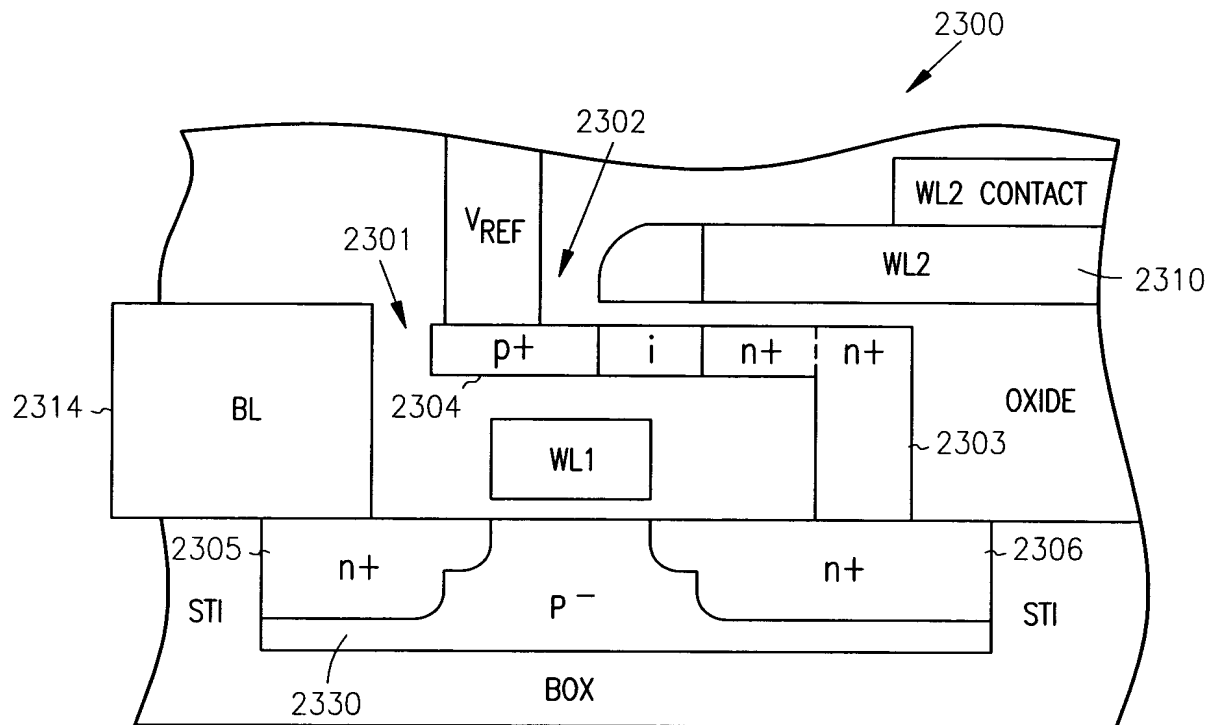


FIG. 23

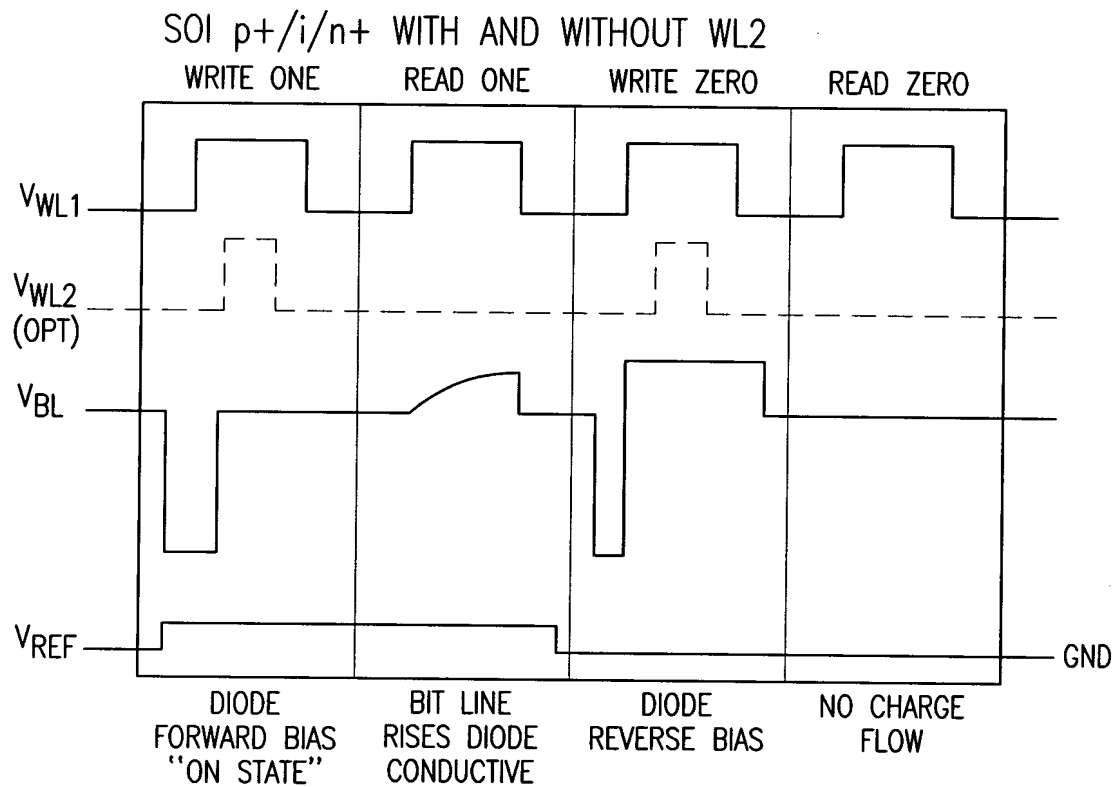


FIG. 24

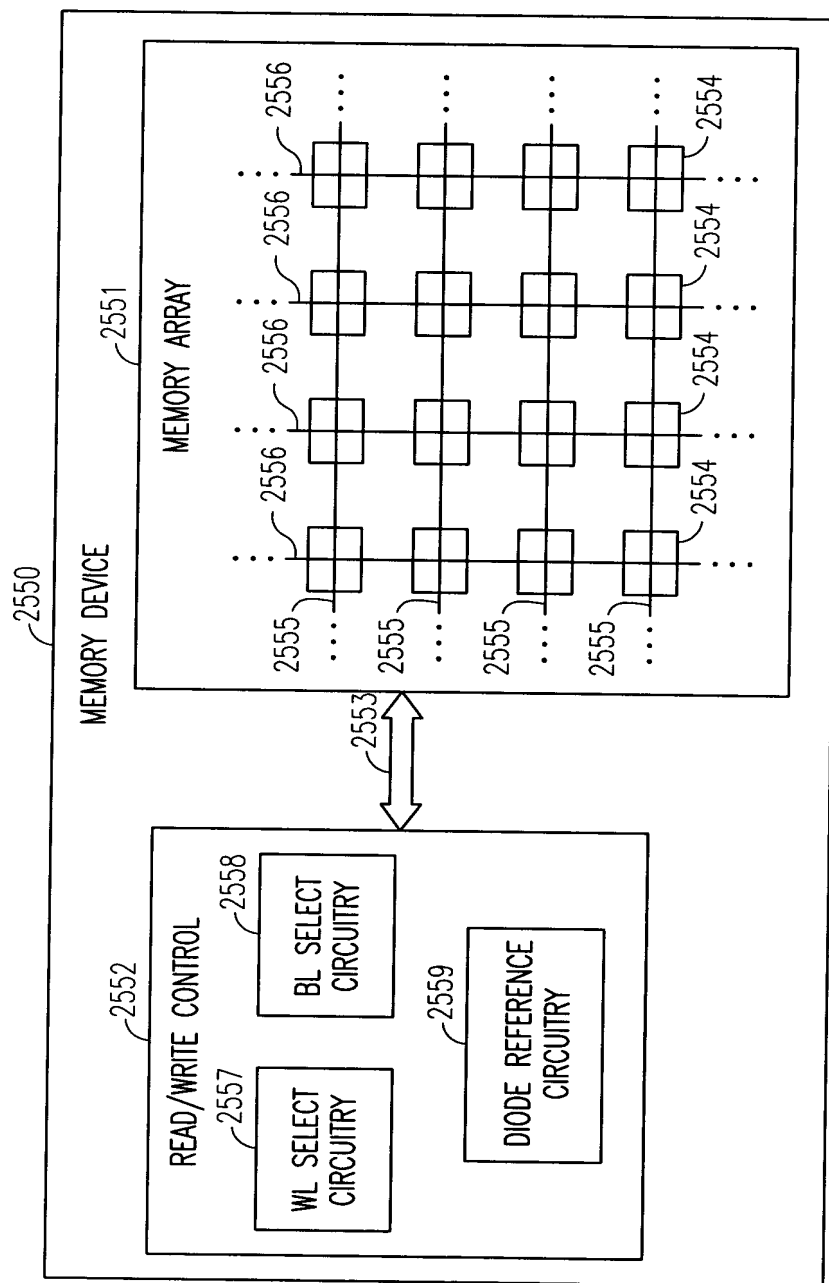


FIG. 25

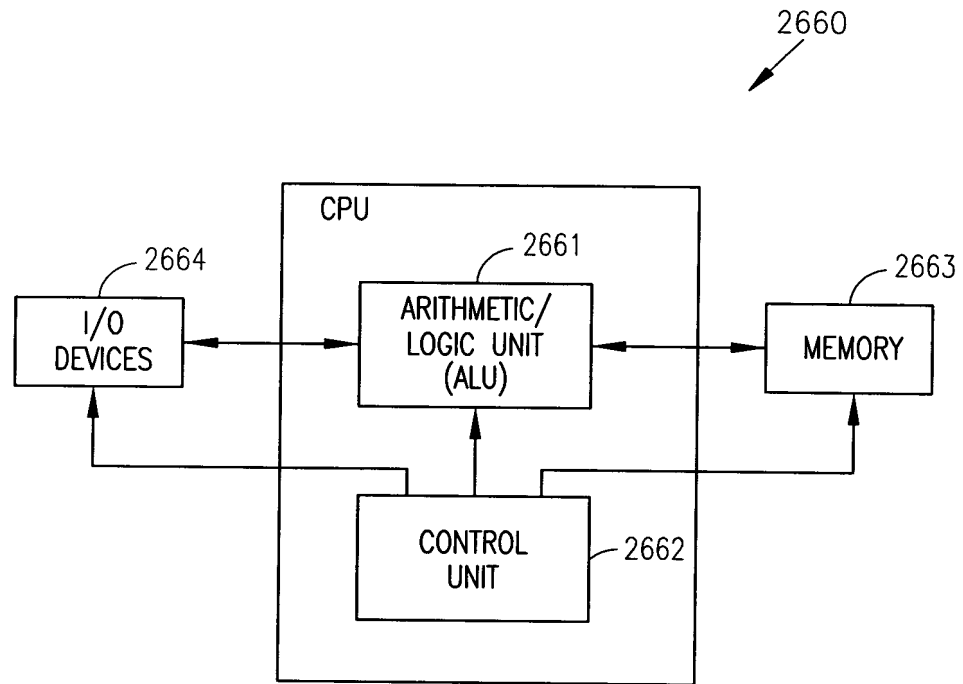


FIG. 26